WISCONSIN WOOD

MARKETING BULLETIN

WISCONSIN DEPT. OF NATURAL RESOURCES

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WOOD MARKETING BULLETIN

The Wisconsin DNR publishes the "Wisconsin Wood Marketing Bulletin" every three months. It serves the timber producing and wood using industries of Wisconsin by listing items: For sale - forest products, equipment and services, wanted - forest products, equipment and services; employment opportunities. There is no charge for the Bulletin or inserting items in it. Only items deemed appropriate to the timber producing and wood processing industries will be listed. Also the Bulletin will feature forest products utilization and marketing news, safety notes, coming events, new literature, tips to the industry, and listing or employment wanted or positions that are available.

If you know of someone who would like to be on the Bulletin mailing list, please ask them to send their name, address and zip code to the return address on the back page. Also, if you have items to list, send in the form or write a letter to the return address on the back page. Repeat listing of items requires a written request each time the item is to be repeated.

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WOODY BIOMASS HARVESTING

Last month, I talked about woody biomass availability, potential volumes, ownership, and harvesting guidelines. Beyond the above issues is the economics of getting the biomass from the stump to the end-user.

With mechanized cut-to-length being the predominant cutting system used in Michigan and Wisconsin, biomass extraction is more costly because by taking tops and branches out on a conventional forwarder, the weight of this material that a forwarder can carry is only 30-40% of bunk capacity. Hence, more trips, more fuel, and more time to get biomass out of the woods, compared to pulpwood. This system does offer fairly clean material for chipping; as opposed to other logging processes that involve skidding the trees and tops on the ground, resulting in dirty material. An adaptation of biomass extraction using CTL is to just process the bolewood while leaving the branches and the top of the tree in the woods. This bolewood can either be processed into 8' lengths, or taken out of the woods in whatever length is remaining after the processing. These pieces of bolewood are commonly referred to as fuel rods. The advantage to fuel rods is that existing equipment can be used and the percentage of bunk capacity utilized by this material is much higher than when the entire top is taken out.

Where whole trees harvesting can be done, the tops and branches area traditionally skidded out to the landing anyway, thus making processing of biomass both easier and more affordable. However, many landowners limit the use of this equipment, which limits the quantity of material obtained this way.

Once the biomass material (tops or fuel rods) are at the landing, they can either be chipped immediately, or stored on-site to lower the moisture content and be chipped in the future. Storing it on-site can create the potential for other problems, such as reentering the site at a later date or vandalism of the piles. With fuel rods, they could also be trucked to the using facility and stored on-site to be chipped either immediately or at a later date. With fuel rods, in many cases, traditional log trucks can be used to transport them to the end-using facility. If chipped on site, chipping and chip vans have to be coordinated, creating more of a logistical issue.

Many biomass using facilities being considered do not have adequate storage on-site and would require satellite yards. To utilize these yards, they would have to be either a facility to store chips or haul to an on-site chipper to process the chips. Unless adding value to the product (by lowering moisture content) a satellite yard involves at least double-handling and will add further cost to these products. The bottom line is there isn't anything simple about biomass extraction, processing, and transport when all the variables are taken into account.

Source: By Don Peterson, Wood Education and Resource Center Woody Biomass Consultant*; Renewable Resource Solutions, LLC;* Crystal Falls, Minnesota

ECONOMIC IMPACT ANALYSIS OF WISCONSIN PELLET PLANTS

This report addresses the potential economic impacts of the operation of a wood pellet plant in Wisconsin under two different scenarios: 1) a residuals-sources pellet plant, 2) a mixed cordwood/residuals-sourced plant. Assumptions were made to determine productivity, value of inputs, and breakdown of operations costs for each scenario. Economic impacts were modeled using an input-output modeling software program called IMPLAN. These estimates include the direct impacts of operation of the respective plants, indirect impacts of local purchases to operate the plant, and induced effects associated with household spending

resulting from employee compensation created by the plant's operation. These three types of impacts are added together to estimate the overall effect of running the hypothetical plants, showing their contributions to the statewide economy.

According to these estimates, a residual plant creates about 1.15 jobs per 1,000 tones production and contributes over $250,000 in output to the economy per 1,000 tones production. A cordwood plant creates about 1.68 jobs per 1,000 ton production and contributes nearly $375,000 in output to the economy per 1,000 tons production. This analysis assumes the plants occur in a locality reflecting the statewide economy's industrial spending patterns. A study of a hypothetical plant in a particular county or region could also be modeled, and may yield different results.

Residuals-sourced pellet plant

A pellet plant sourcing exclusively residual wood material biomass was estimated to produce 30,000 tons of pellet product valued at $150 per ton, with total output valued at $4.5 million. Total costs of raw material would be $1.5 million. Estimates for other inputs (transportation, energy consumption, packaging, maintenance, debt services) necessary for production were compiled, with total inputs of $3.6 million. The Residual Plant would have gross value added output of $870,000.

The Residual Plant was estimated to employ 15 workers for its annual operation, providing an average of $45,000 in employee compensation (wages and benefits) per employee. Net value of output resulting directly from the operation of the Residual Plant is estimated at $195,000, after considering all reasonable operation and labor costs.

The impacts of such a residual plant reach beyond its direct effects, however. The use of IMPLAN allows us to model the residual plant's indirect effects (through purchasing commodities and services from other industries), and its induced effects (through the purchasing power gained by creating new employee compensation that can then be spent on other industries in the local economy). When considering total effect (direct, indirect and induced effects), annual operation of the residuals plant may create 34 additional jobs, with employee compensation of nearly $1.6 million and industrial output valued at more than $7.5 million. The trucking industry would be most affected directly by the residual pellet plant.

Cordwood-sourced pellet plant

A pellet plant sourcing primarily from a combination of underutilized cordwood (80% of its material inputs) and residual wood material biomass (20%) was estimated to produce 60,000 tons of pellet product valued at $150 per ton, with total output valued at $9 million. Total costs of raw material would be $3.84 million. Estimates for other inputs (transportation, energy consumption, packaging, maintenance, debt services) necessary for production were compiled, with total inputs of $8.1million. The cordwood plant would have gross value added output of $885,000.

The cordwood plant was estimated to employ 25 workers for its annual operation, providing an average of $45,000 in employee compensation (wages and benefits) per employee. Net value of output resulting directly from the operation of the cordwood plant is estimated to put the plant at a loss of $240,000 initially, after considering all reasonable operation and labor costs.

The impacts of such a cordwood plant reach beyond its direct effects, however. The use of IMPLAN allows us to model the cordwood plant's indirect effects (through purchasing commodities and services from other industries), and its induced effects (through the purchasing power gained by creating new employee compensation that can then be spent on other industries in the local economy). When considering total effect (direct, indirect and induced effects), annual operation of the cordwood plant may create 101 additional jobs, with employee compensation of nearly $4.5 million and industrial output valued at nearly $22.5 million. Much of the cordwood plant's higher indirect effects are attributed to logging and trucking necessary to supply the plant.

Source: By Luke Saunders, Wisconsin DNR, Division of Forestry.

"NEGLIGIBLE RISK" CLAUSE GOOD NEWS FOR U.S. EXPORTERS

In July representatives of the European Commission, Council and Parliament agreed upon the text of legislation designed to remove illegal wood from European trade. An overwhelming vote in support of the text by the European Parliamentary on July 7 means it is a near certainty that the European Council will formally adopt the legislation in September. The final text of the law has real potential to give American hardwoods an extra competitive edge in Europe, an outcome that was far from certain at the start of the legislative process and which was largely the result of timely and effective interventions by the U.S. hardwood industry.

The Hardwood Federation played a key role, leading by example by supporting passage of the U.S. Lacey Act Amendment in May 2008, a law that the EU was deliberately copied by making European traders liable for prosecution if found in possession of wood sourced contrary to the laws of any country, including those outside the EU.

Equally important were AHEC's concerted lobbying of European institutions and its commissioning of the Seneca Creek study to demonstrate a less than 1% risk of any American hardwood being derived from an illegal source. These efforts have strongly influenced the EU in favor of a risk based approach. Earlier drafts of the legislation would have required all wood suppliers, irrespective of the risk of illegal logging, to provide

proof of legality based on full traceability to "concession of harvest." At one stage, there were even proposals to introduce mandatory third party "sustainability" certification and labeling of wood products traded to the EU.

However, following AHEC interventions, the agreed text now includes a clause acknowledging that no additional measures will be required for those wood products where there is "negligible risk" of illegal logging. In fact the concept of risk assessment now lies at the very heart of the legislation. All operators in the EU that "first place" wood and wood products on the European market will be required to conduct a due diligence process (recycled products are exempt). This process will involve systematic risk assessment combined with procedures that are "adequate and proportionate" to minimize any risks identified. Risk mitigation may include requiring additional documents or third party verification.

The requirement for mandatory traceability has been much reduced and now simply states that each downstream trader in the EU must know from whom wood products are obtained and to whom sold (so-called "one-up-and-one down" traceability). This is not expected to involve any extra bureaucracy since the evidence required need only be an invoice or receipt which in any case have to be kept for financial purposes.

Responsibility for enforcement and sanctions will lie with the individual member states. Although the approach may differ between countries, the legislation is likely to work in a similar way to the Lacey Act. If the authorities establish that a particular European operator is dealing in an illegally sourced product, the level of sanction imposed will likely depend on a judgment on the effectiveness and level of compliance of that operator's due diligence system.

In short, the law will provide European importers both with strong motivation and the necessary procedures to demand only wood products demonstrably derived from low risk sources with respect to illegal logging. Through tools like the AHEC-commissioned Seneca Creek study, American hardwoods are already in pole position to satisfy this demand.

Source: By Mike Snow, Executive Director American Export Council: *Hardwood Matters*, August 2010, WEB: www.ahec.org

A LOOK AT THE CRYSTAL BALL

Traditional Markets Sawtimber. Softwood sawtimber will continue to be the most profitable product from our forests for the next 5-10 years. Housing still is not out of the woods. Household growth is down, net disposable income is down and unemployment is high. Demand for new housing starts will not equal the demand of the last decade but will gradually increase from the current level.

Two other factors impacting sawtimber are favorable; the U.S. south will enjoy good demand because of beetle problems in Canada and the relative low value of the dollar. There should continue to be fewer lumber imports in the U.S, and increased opportunity for exports to markets where housing is growing. An example close to home is Haiti. Why aren't we pushing for increased use of lumber in the rebuilding of Haiti's housing? One thing to watch for – the product mix for sawtimber from the forest could very well change as engineered wood takes the place of lumber; the result could be a shorter rotation for plantations.

The demand for hardwood sawtimber will not be as strong as for softwood with uses continuing to be flooring, cabinets, and pallets. I do think some furniture manufacturing will come back to the U.S. but not in significant quantities in the next few years.

A number of economic forces will increase manufacturing in the U.S. For one thing, we can't reduce manufacturing much more and survive. I believe that within my lifetime, the increasing cost of transportation combined with the rising cost of labor in the third world combined with global tensions will reduce the export of raw materials from the U.S. Reduced purchasing power will decrease the imports of finished goods to this country, and although our standard of living will probably be reduced, those products we do have will be manufactured here. If I am correct, the U.S. south's forest products industry will benefit.

Pulp and Paper. The pulp and paper industry in the U.S. will continue to decline and eventually reach equilibrium at about 50 million tons or 50% of its peak production rate. Most of this decline will occur in printing and writing grades, including newsprint where structural changes have been underway for many years. The Internet**,** iPad, Kindle, increased digital advertising, decreased print advertising, and the overall economic slowdown have significantly impacted this segment of the industry. Exports and imports will have a declining effect on the industry.

Sadly, as in the case of most industries in decline, current leadership in the industry will not recognize solutions to problems and the transformed forest products business of the future is likely to be determined by those who are not in the business today such as utilities or energy companies. By the way, Asian CEO's are extremely optimistic about the future of the pulp and paper industry in their countries. And finally, surprisingly, the stock market performance of the pulp and paper companies that survive will be good. In fact, this sector outperformed the average market for calendar year 2009.

Opportunities in Energy and Environmental Services

Energy and environmental services markets are real, and although they are young, and the rules and regulations are not yet fully established, don't

overlook the opportunities that are developing for energy and environmental services from forests.

(The U.S. does not have a coherent and clearly thought through energy policy. Even the players in the forest products area can't agree on what's best for our own industry much less for the U.S. Part of the confusion rests with the ownership structure in Forest Products. Now that forest products companies have divorced themselves from ownership of land for the most part, the manufacturing entities are opposed in many cases to anything that might increase their raw material costs. Issues under discussion include the definition of biomass, the timing and rules for carbon cap and trade and a uniform renewable portfolio standard for renewable energy through the U.S.)

The new markets might make you forget about pulp mills. While we are waiting for the rules of the new game to be established, we must remember that China and Brazil are competitors that are well on their way to establishing superiority in the bio fuels arena. And the oil industry and other competing sources of energy such as nuclear have not been declared dead. The trend, however, is for increased use of biomass and this trend is favorable for individual landowners.

Ethanol from Cellulose. The demand for ethanol as a fuel is unlimited. We don't have a refinery in NC. We do have lots of cellulose available and can grow more if we need to so. Ethanol from cellulose is not ready for commercial production today, but we are closer than we were five years ago. The next step is a large scale mill trial. And yes, the IP mill at Franklin would be a good location. The mill has ozone and oxygen which are helpful in the ethanol process. Because hardwood and pine have different sugars, it is more efficient to treat the wood separately and the pulp mill at Franklin has the required chip handling systems and tankage to do this.

Couple of key factors to consider: the efficiency of the ethanol from cellulose process is not yet high enough for sustainable production, the selling price for ethanol probably needs to be near $3.50 - $4 per gallon, and at least in the short term a government subsidy will be required for the economics to work out. Even if successful, the initial projects will not use as much pulpwood as a traditional pulp mill.

Pellets. Pellets for fuel are probably closer to commercial reality than ethanol from cellulose. (Weyerhaeuser and Mitsubishi announced a partnership in early February that will focus on bio stuff. As I read the announcement, products could range from pellets to ethanol to electricity. (Weyerhaeuser is large enough and has enough forestland to build several bio plants throughout the U.S.). There are already pellet plants in operation in other parts of the U.S. Large plants of ½ to ¾ million tons per year capacity have been announced for Florida and Georgia. The demand for pellets is coming from Europe and is driven by environmental considerations and regulations. (Some projections have indicated that total demand for wood fiber for biomass energy in Europe will require nearly a doubling of the European timber harvest or alternatively will require greatly increased reliance on imported wood fiber. Right now, the U.S. south is the external supplier of the wood fiber. Source: 2009 SC Forestry Magazine). Here in the U.S. the renewable portfolio standard, requiring utilities to generate electricity from non-renewable will increase the demand for pellets. And because utilities are regulated and their costs passed through to the customer, they will be tough competitors for unregulated users of wood such as panel board mills and pulp mills.

Since the pellets will be shipped large distances additional processes to drive off the moisture and organics become important. NC State, through a project sponsored by Golden Leaf through the Natural Resources Foundation, has demonstrated the benefits of a process called torrefaction to produce what some might call biochar.

Not everyone agrees with exporting pellets for fuel. Some environmental groups oppose cutting trees for anything, especially for export as chips or pellets. When articles are published indicating that we have to double timber harvest to satisfy demand, many alarms go off. One factor not yet considered is that the U.S. can significantly increase its production of cellulose with siviculture practices as well as genetics. I do not believe we have a shortage of fiber.

I believe that increased demand for wood for fuel will increase prices for pulpwood, leading to an increase in costs for the pulp mills and OSB plants that are still in production.

Carbon Cap and Trade. There has been much talk but little action regarding carbon credits and carbon cap and trade. With the failure of the environmental meeting in Copenhagen late last year, President Obama's political troubles at home, and some of the discredited science regarding global warming, the passage of regulations regarding carbon caps and trades credits and greenhouse gases appears doubtful in the next year or so. (It is possible that President Obama will bypass Congress and use the Executive branch to make policy changes. EPA is currently proposing sweeping regulations for CO2 and others in the Executive branch are proposal new regulations for wetlands.) Without regulations creating the market demand, there will be little demand for carbon credits. (The price for the credits fell about 30% in Europe after the Denmark conference ended, and even at this low price, much of the trading in carbon credits is speculation by investment bankers.) The price for carbon credits in the U.S. is much lower than in Europe and probably would not net a major landowner more than a few dollars per acre per year. One of the

big problems right now is the accounting necessary for carbon trading to work. How do you account for a forest fire? Does the landowner have to pay cash received in an earlier year, when due to weather the trees do not grow as predicted? What about stumps left in the ground, or residuals used for chips? What if the residuals go to a boiler rather than to ethanol?

I believe there will be lots of jobs for accountants and bureaucrats but little income for the tree farmer from carbon credits in the foreseeable future.

Environmental Services. Recognized environmental services include but are not limited to, wetlands restoration and preservation, species preservation and habitat restoration, stream preservation and restoration and watershed protection.

Although the prices for environmental services projects are enticing:

. $45,000/acres for wetland mitigation credit

. $250,000 for a pair of red cockaded woodpeckers

. $750/acre for conservation easement

….in reality, few acres qualify for these services, and fine print describing the regulatory requirements make the projects prohibitive for many land owners. A major problem for environmental services is determining the value of a particular species of woodpecker or a wetland or the rainforest. These values do not typically enter into the economic system. Unless this value can be determined, an acre of rainforest will always compare unfavorably with the same acre in soybean or palm oil plantations. Once this value has been determined and agreed to by society, the owner can be properly compensated for an environmental service. (Source: Bayon, Ricardo "Biodiversity Banking: A Primer." Ecosystemmarketplace.com, 11/20/09.)

Although there are some new projects and services that will benefit individual landowners, I don't know of anything that equals the value of sawtimber – when there is a market for the sawtimber.

Conclusion. The truth that I want to leave with you is that we are alive. Our future is brighter than it has ever been. But you must forget the old; look forward to the new. And you must become active. In North Carolina (as well as South Carolina) the forest products industry is the number one manufacturing activity in the state. We are Number 1! We have at least one forest products facility in every county in the state of North Carolina! No other industry can make this statement. And when you include the economic benefit of recreation and tourism, we rival agriculture for the best thing going in North Carolina! (The Forest Products industry in North Carolina has an annual economic impact of $30 billion and more than 200,000 jobs. In addition, 300,000 people grow trees to sell and the recreational uses of our forest provide an additional $50 billion impact.) Source: By Phil Mitchell, *North Carolina's Wood Products Extension*, Campus Box 8003, Raleigh, NC 27695

TEN BIOMASS MYTHS

Our energy consumption is massive. Numbers with lots of zeros. This situation is important to keep in mind when thinking about how we are going to build a new energy infrastructure. Without a doubt, the current system is not going to work for too many more decades. Conservation and efficiency will be critical. Without them, little else is going to be effective. With them, little else is going to be effective. With that also in mind, we need to develop as many non-fossil fuel technologies as possible. All of them. Including wood.

Below are some of the wood energy myths gleaned from actual "new" reports and oppositionist websites

1, Wood-fired power plants are no environmental cure-all.. Of course not. No single energy source will be a "cure-all," short of something yet undiscovered. However, wood energy, done properly, has an enormous potential. And for the most part, wood can be harvested with minimal, if any, negative environmental consequences. Inversely, many positive outcomes are derived from timber harvest. No one (except the oppositionists) has suggested that forests could replace all of our fossil fuel consumption.

2. Cutting down trees causes carbon to be released, which contributes to climate change. OK, this is sometimes true for the first several years following harvest, but after those forests have rebuilt their soil carbon capital (from atmospheric carbon), the regenerating forests actually absorb carbon at a faster rate than before. More importantly, combusted carbon released into the atmosphere is the same carbon that came from the atmosphere. It's simply a matter of moving carbon among normal pools within the natural carbon cycle. Scientists are still working on the mechanics of this cycle, but the general picture seems to be reasonably clear. The big benefit of using wood, and other non-fossil fuel sources, is preventing long-buried carbon from fossil fuel combustion from entering the carbon cycle.

3. Ethanol takes more energy to produce that what you get. Almost certainly a myth when a complete life cycle assessment is used. Also, there is a large difference between ethanol from cellulose (e.g. wood) and ethanol from grains (e.g. corn). More important, again, is the displacement of fossil fuel consumption. Furthermore, consider the energy budgets of our current energy consumption. For example, coal-generated electricity, the bulk our electricity, is grossly inefficient. That should make one think twice about the "greenness" of a plus-in electric car.

4. The emerging biomass industry will devastate our forests. Hmmm. If an owner and their forest could be so easily separated, it would have been done long ago. Simply because a new market emerges does not mean forest

owners will be lining up to harvest their woodlands. In fact, recent research from Wisconsin and Pennsylvania suggests that providing wood for energy is not a significant motivator for future timber harvest. On public lands, the current forest management mechanisms will remain in place, with the addition of recently developed biomass harvest guidelines.

5. Wood energy doesn't create many jobs. Not true. In Sweden, where wood based energy infrastructures are advanced, 250-300 jobs were created for each terawatt of wood energy. Michigan consumes 900 terawatts per year. Do the math. The jobs are not in utility facilities, which is often what opponents cite. The jobs are in the procurement, handling, and support within the feedstock supply chain. And these are local jobs that keep energy dollars local.

6. Energy plantations will displace land used for forests and food crops. Nonsense. First, it is far too expensive to clear forests for energy plantations. The financial and economic budgets for such plantations are already marginal. Second, revenue from energy plantations is not likely to be competitive with that of traditional food or forest crops, at least in the near term. Third, the place to grow energy crops is on some (not all) of the millions of acres of retired productive farmland.

7. Energy plantations will exhaust soil nutrients. Not likely. The bulk of research regarding soil nutrient capabilities suggest biomass harvesting on most of our soil types and in most of our forest types is feasible. However, there are some soil types and some forest types where caution will be required. This knowledge is built into biomass harvesting guidelines.

8. Wood-fired facilities present a health risk from air pollution. The Europeans have studied this extensively. Proper emission control technology, which is well understood and a relatively simple technology, reduces potential pollutants well below acceptable levels. Wood combustion, compared to other feedbacks, is among the cleanest available, especially when compared to coal, which is currently our largest source of energy in the U.S. The black sheep of the wood burning world are those backyard furnaces. Modern wood-fired facilities don't have those problems.

9. Energy fiber will consume sawlogs and pulpwood that would be better used for higher value-added products. Why would someone take a $500 log and sell it for $25? The market will determine where wood fiber goes. At this time, and well into the near future, energy markets will not typically be price-competitive with already existing wood markets. In reality, lower quality material lacks sufficient markets. There are high volumes of currently non-commercial wood that could be sold into an emerging energy market.

10. There isn't enough wood out there to supply all the proposed projects. This is actually true, but it's also a bit of a lame-duck argument. Feedstock supply is just one item on a long list that determines if a project moves forward. Projects without feed-stock won't happen.

Using wood to produce a portion of our energy demand has a lot of merit – environmentally, socially, and economically – especially in forest-rich regions like ours. Building a new energy economy will not be easy, but it will be necessary. Challenges are known and are being worked on. Using science-based information and taking lessons from those more experienced will need to be important components of building our future.

Source: By Bill Cook, Forester/Biologist, Michigan State University Extension, U.P.; *TimberWest*, May/June 2010

REPORT: ILLEGAL LOG TRADE DROPS 'DRAMATICALLY'

LONDON – World-wide efforts to thwart illegal logging and make it harder for timber smugglers to profit are paying off, according to a new report released by Chatham House.

The report, "Illegal Logging and Related Trade: Indicators of the Global Response," say total global production of illegal timber has fallen by 22 percent since 2002.

"Up to a billion of the world's poorest people are dependent on forests, and reductions in illegal logging are helping to protect their livelihoods," said Sam Lawson, Chatham House Associate Fellow and lead author of the report.

The report states that illegal logging has dropped by 50 percent in Cameroon, by between 50 and 75 percent in the Brazilian Amazon, and by 75 percent in Indonesia in the last decade. This reduction, documented in three of the five tropical timber producers studied, has prevented the degradation of up to 17 million hectares of forest, an area larger than England and Wales combined. By preventing forest degradation, which is often the first step towards forest destruction, efforts to tackle illegal logging in these three countries may over time help prevent – a relatively low cost – the release of up to 14.6 billion tons of carbon dioxide – the equivalent of half of the carbon dioxide released by human actions worldwide each year. Conversely, if the timber were harvested under government auspices an estimated $6.5 billion dollars could be raised in these countries alone, more than twice that which the world spends each year in overseas aid for primary school education.

The new report covers starts in the forests of five "producer" countries studied: Brazil, Indonesia, Cameroon, Malaysia and Ghana. The study also analyzes the entry of timber into markets in five "consumer" countries, including the United States, Japan, the UK, France and the Netherlands, as well as through the ports and factories of two "processing" countries – China and Vietnam and – and from there to buyers in the industrialized world.

The study notes that despite the "dramatic decline," illegal logging remains "a major problem." While more overt instances of illegal forest sector activity are addressed, less-easily detected illegal practices are becoming more significant. For example, the study notes that companies with legal harvesting licenses may log outside the permitted area. In addition, licenses to clear forest for agricultural plantations are also often issued illegally.

According to the study, in 2008, companies in the United States, Japan, the UK, France and the Netherlands bough 17 million cubic meters of illegal timber and wood products worth around $8.4 billion. Most of it entered those nations in the form of processed products like plywood and furniture, mainly from China.

In 2009, a total of 100 million cubic meters of illegal timber were harvested in the five timber producing countries studied. "If laid end to end the illegal logs would encircle the globe more than two times over,' said to Larry MacFaul, co-author of the report.

The report notes that the United States became the first country to create a law against the handling of illegally harvested timber and products made from illegal logs when it amended the Lacey Act in 2008. The report sees early indications that the new law is already placing pressure on timber producers and processors around the world to police their supply chains.

"The effort to combat illegal logging and improve forest governance has brought developed and developing countries together in a unique way with a shared sense of purpose, Lawson said. "Our study shows that consumer interest and pressure combined with action by producer countries can yield very positive results."

Read Chatham House's full press release, which includes links to a briefing paper of the report and "report cards" of the 14 nations studied.

Source: *Woodworking Network*, July 2010

VERSO LAUNCHES RENEWABLE ENERY PROJECT AT QUINNESEC MILL, MICHIGAN

Verso Paper has initiated a $43 million Renewable Energy Project that will allow its mill in Quinnesec, Michigan to meet more than 95% of its energy needs using renewable biomass sources.

"The implementation of the Quinnesec Renewable Energy Project is in alignment with Verso's three-pronged energy strategy, which is to reduce overall energy consumption, generate more green energy from renewable biomass and reduce our carbon footprint, all while reducing costs," said Mike Johnson, Verso's president and CEO.

Mike Sussman, Quinnesec Mill Manager, said "Verso is fortunate to have active partners in the Michigan Governor's Office, the Michigan Economic Development Corporation, Dickinson County and Breitung Township, who are working diligently to help make our Renewable Energy Project a reality."

A direct result of the state-wide partnership is the designation of a Forest Products Processing Renaissance Zone, which allows a company within the zone to operate free to virtually all state and local taxes over the life of the designation, Verso said in a written statement.

The scope of the project includes design upgrades to the Quinnesec Mill's existing combination boiler, which burns biomass from waste wood sources, the addition of a new biomass handling system, and the installation of a new turbine generator.

Verso expects start up by December 2011.

Source: *PaperAge*, July/August 2010

OPTIMIZING THE LOG MIX CAN ACHIEVE HIGHER PROFITABILLITY WITH LOWER OVER-RUN (The Truth about Sawmill Over-Run)

The sawmill industry today faces many challenges: the amorphous nature of global competition, the housing boom and bust, environmental concerns, etc. But the inherent qualities of wood make it an important material; there seemingly will always be demand for softwood and hardwood lumber. As sawmills compete for raw material and markets, only those that evolve and improve management techniques will survive. There are various factors which contribute to the profitability of the typical sawmilling operation, such as log prices, log allocation, sawmill utilization, labor costs, logistics, etc. However, one ubiquitous management metric is usually found to be common to modern sawmill operations: the metric Over-Run.

In sawmill operation, there is always some disparity between log scale and lumber yield, which is known as either over-run or under-run. If the lumber output is greater than that predicted by the log scale, then the excess difference is called the over-run. Over-run is usually measured as the difference between the scale of a log and the board foot measure in that scale of the lumber obtained from the log expressed as a percentage of log input. It is typically calculated by the following formula:

Percent of overrun = ((Lumber output – log scale)/log scale) x 100

There are different log scales by which over-run is measured. The Scribner Log Rule is a common method of predicting lumber volume from specific logs, and is used frequently in the Northeastern United States hardwood lumber industry to establish the market value of logs. The Scribner scale was developed in 1846 based on a series of sawing diagrams of 1-inch lumber in various log length and diameter classes, allowing for a ¼" saw kerf (sawdust lost from lumber volume due to the sawing process) between each board.

However, the Scribner scale, like all other log scales, was developed to estimate the lumber footage potential of a log, not the lumber value potential.

The Scribner, like many other log scales, tends to be conservative and underestimate the lumber potential of certain log categories. Since over-run measures, in effect, the error of the log scale used, sawmill managers have considered the metric to be an accounting of the amount of "free wood" produced from their mill, because the log was purchased based on this conservative log-scale estimate of lumber potential. From that line of thought evolved the common belief that higher over-run, since it indicates more "free wood" produced by the mill, necessarily indicates higher profitability. Therefore, most sawmill managers believe that over-run is an excellent indirect indicator of operational profitability.

However, little or no formal work had been published to support this common belief; that is, until Penn State research team published a paper in the academic journal *Wood and Fiber Science* entitled "Impact of overrun on optimal performance of hardwood sawmills."

The study showed that no reliable relationship exists between mill over-run and mill profitability, either actual or optimal. By optimizing the log mix into the sawmill, it was proved that higher profitability can be achieved with lower over-run.

While the results from this one case study do not necessarily represent all sawmill operations, nor disclude certain situations where maximum over-run might result in the best profit scenario for any certain set of market conditions, they do lend support to the hunch that many mill managers have had over the years: that by purchasing small or lower-grade logs in order to maximize over-run and minimize raw material cost, they are realizing lower than optimal profitability from their mill operation. Our findings suggest strongly that over-run should not be used as a measure of mill efficiency, or allowed to influence log purchasing strategy, because of the possible negative profit impact the resulting decisions could have.

A better alternative for measuring mill efficiency is to measure actual yield of the processed logs against an established mill standard yield by log and lumber grade. The best solution, in terms of capturing potential mill performance, is to optimize the log mix for any particular sawmill through an appropriate log mix linear programming optimization model, similar to the one stated in the paper referenced earlier, and reconciling actual mill performance against the theoretical optimum at regular intervals.

If you company does not have the software tools to perform this mill optimization analysis, there are consultants and software available for your use. Some of those you may consider are: Halco Software Systems, The Beck Group, and BestPossible Soltions, Inc.

Another option to consider, if you're really serious about making the most you can out of your sawmill operation, is to hire an industrial engineer to perform the necessary mill studies and develop the computer models necessary to continually make the optimal management decisions for your mill. Any good engineering program produces a number of qualified industrial engineers every year; The Harold and Inge Marcus Department of Industrial and Manufacturing Engineering at Penn State is one of the very best in the country.

The advantage of having your own industrial engineer on staff is that mill optimization is an ongoing and dynamic process, and short-term gains can be quickly lost with market moves and mill upgrades. A good industrial engineer is worth his or her weight in good to any competitive sawmill or plywood operation.

Source: *Pallet Enterprise*, August 2010 by` Dr. Chuck Ray a wood products operation specialist at Penn State University. He can be reached by email or cdr14@psu.edu.

IT IS NOW POSSIBLE TO DOWNLOAD ALMOST EVERYTHING THAT IS IN PRINT ON TO HANDHELD DEVICES – IS THIS A THREAT TO THE INDUSTRY? ICT – KILLING THE PAPER INDUSTRY

We have been running a series of articles on information Communications Technology (ICT) and its threat to the paper industry on our community site at RISI.com ICT comes in many shapes and sizes, but the latest development, the e-readers in the shape of the Amazon Kindle and the more recently launched Apple iPad, are the ones that perhaps pose greatest threat to graphic, newsprint and book papers. It is now possible to download almost everything that is in print on to these devices. And don't think for one minute that this is a future problem; Amazon has just announced that sales of the Kindle have increased three fold and that for the first time e-books have outsold hardcover books, which, says CEO of Amazon Jeff Bezos "…is astonishing when you consider that we've been selling hardcover books for 15 years and the Kindle for 33 months."

While we in the pulp and paper industry cannot question that ICT comes into the publishing space with some amazing technology, what we can question is the environmental argument, i.e., are these devices greener than the good old book, newspaper and magazine? Some say "yes" and some say "no". Whatever the answer, it has made for a fascinating debate which has been raging on our online site for a couple of months now. Below are some excerpts of just a few of the comments from the industry and beyond:

The ICT vs. Paper Debate

Professor Peter Arnfalk, associate professor at Lund University in Sweden, has carried out a cradle to grave assessment of the ICT segments, and came up with costly elements in

terms of the environment, he says: ICT is currently being projected as a very clean segment of industry, particularly as it is seen to be "de-materializing" by cutting down the used of paper. But this is not strictly true, not only does ICT consume energy, the devices also contain almost the entire periodic table of materials in their manufacture. In fact when totaled up, the production and running of ICT equates to 2% of the global emissions of CO2, which is equivalent to that of the airline industry, and it is set to grow at a huge rate, almost double by 2020."

But surely the paper industry comes out of this assessment with some good environmental credentials, and at least something to feel optimistic about? Arnfalk responds: "Well actually, coming from Sweden, I am well aware of the work that the paper industry has done over the last 20 years. It is perhaps the world leader in terms of the way it has addressed the environmental issues. But it could still learn something from the ICT segment, despite it being such a newcomer. Leaders of ICT know that the energy consumption figures are high, and it is working on them. But most importantly the users of the technology know the ICT suppliers are working on them. ICT communicates the message of every opportunity. The paper industry needs to do the same; identify the areas where it could be the most environmentally effective alternative to ICT and communicate the message to the end user."

E-Mail vs. Post

We had some other educated responses and messages in relation to the articles from all over the globe, this time is on the subject of email vs. post. Phillip Lawrence, environmental and business strategist, and head of Ecostrategy based in Australia, says: "There are sections of all industry that can be replaced by new methods, despite worries about what is more environmentally friendly or not.". Quoting from Professor Anthony Gidders "Structuration Theory", Lawrence applies an example to the debate: "Over time there is compression in time. For example at a point in time it would take about two years to walk across the US, then by horse it would take a few months, by train a couple of weeks, by plane less than a day and in with faster planes just hours. Given the choice modern society will opt for less time to complete tasks. Time is money. A paper letter takes days to deliver, an email can be seconds."

More on the email vs. post debate came in from Charlie Gross, from Ries Paper in the US who says that despite being in the business since 1974, he is concerned that the pulp and paper industry has never been is dialogue or discussion on the environment with the public. Gross says: "The ICT industry however, has been connecting with the public in every possible way. Our children and grandchildren are often taught a one sided view on the environment; often starting in grade school. The paper industry has sat on the sidelines for too many years. Our not being a part of the dialog has resulted in the public believing the forests are shrinking and that discarded mail is a major component of landfill."

Gross warns that in the near future there could be a major event, and even "a point of no return" if the misconceptions of the industry are not firmly addressed. He says: "Throw in concerns about air and water quality and many folks begin to believe paper, and therefore print, is bad for the environments. I will not be surprised if there is a "Do Not Mail" ballot initiative in California in the near future. If that happens, many of our industry will ask, "Why did they do that?" They should know better." In fact, since we have been absent from almost all dialog with the public no one in our industry should be surprised."

Environmental Footprint Measuring – The Only Proof We Have

But it is true to say that if the paper industry is going to have a voice in the environmental debate, then there is going to have to a mountain of work carried out on the research front. Another comment the articles evoked was from Laurel Brunner, consultant to the global printing industry and managing director of Digital Dots. Brunner says: "Such comparisons (between paper and ICT) require very specific system boundaries and need data that may not yet exist. What data is available is often funded by people with vested interests and so many lack credibility, no matter how sound the work. Independent analysis and data are hard to come by, so ground up research is needed. This adds to the time and complexity of such a project."

"In considering environmental impacts, it's very easy to overlook the social role of media, particularly as drivers for growth and development", concludes Brunner. "Is digital media more or less effective, given the overall cost of content delivery (platform, infrastructure, energy access), than paper based media? Which media has the greatest potential for direct change in developing economies?"

Our Continuing Debate

There is no doubt that this particular debate, whether the subject be environmental, speed, ease of use, cost or educating effectiveness, will run and run and we will be keeping up with the pace with regular updates and feedback on ICT and the pulp and paper industry as part of the ongoing series. Your contribution would be most welcome. Contact Mark Ruston at mrushton@risi.com

Source: By Mark Ruston, Editor, *Pulp & Paper International (PPI)*, August 2010

FOR SALE

Timber and Forest Products

Large quantity of old growth reclaimed lumber for sale. Available in board lumber, plank flooring, etc., green, air dried, kiln dried. Contact

Fred Janice (716) 433-4224 phone and FAX.

Equipment

Machinery for sale: Gabinnie gang rip saw; Mattison straight line rip saw; 18" carbine helical – straito planer; automatic rotary table shaper for chair seats; Weinig 22n – 5 head moulder; 93 – GMC – flatbed dump truck – cat engine (low mileage); Holtz – her- 32 mm borer – 19 spindles construction and shelf holes; Buss 30" carbide planer; Parks – 20" planer; 16" Northfield jointer; Caterpillar – D3C bulldozer – 6 way blade. Contact Fred Janik (716) 433-4224 (phone and Fax).

Jackson Scragg Mill – Make money from small logs with a Scragg Mill. Unique, innovative features boost production. Also Jackson hydraulic log turner –with stinger type arm, precise turning, with pusher. Contact: Jackson Lumber Harvester Company, Inc., 830 North State Road 37, Mondovi, Wisconsin 54755, Phone (715) 926-3816; FAX (715) 926-4545, WEB: www.jacksonlbrharvester.com

Nyle kiln model L200 for sale, $4,500, never taken out of the box! 1,500 to 2,500 board feet for softwoods and fast drying hardwood. Call Patrick Keyes at (920) 470-6978

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Fire and explosion systems – we offer fire and explosion protection solutions for your combustible dust hazards. Contact Jim Kopish; J. F. Ahern Company, 201 Morris Court, Fond du Lac, Wisconsin 54935, Phone (920) 907-5424, WEB: jkopish@ahernfire.com

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Veneer logs – hard maple, red maple, black and white ash, white and yellow birch, red oak, white oak, basswood, butternut and walnut. Contact Ted Fischer, Ike International Corporation, 500 East Maple Street, Stanley, Wisconsin 54768; Phone (715) 644-5777; Cell (715) 577-7975; FAX (715) 644-5786 E-mail ted.fischer@ikeinternational.com

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If you want to list items, fill in the form below:

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CITY ---------- ZIP CODE ----------PHONE AC (-----) ----------

WISCONSIN LOCAL-USE DIMENSION LUMBER GRADING

A procedure is in place under which Wisconsin sawmills are able to produce dimension lumber that may be sold without a grade-stamp issued under the authority of a lumber grading bureau, and that lumber may be used in residential construction when directly sold to the person who will inhabit the dwelling (or to a person acting on his or her behalf) and for whom a building permit has been issued. To do this someone from the mill must attend one of the **Wisconsin Local-Use Dimension Lumber Grading Short-Courses** that are offered for Wisconsin sawmill operators. These one day special short-course training sessions are offered several times a year, at no charge, and are advertised in the WI-DNR's Wisconsin Woods Marketing Bulletin. **Successful completion of this course and successfully passing an associated test is required for anyone that wishes to produce and sell local-use dimension lumber in Wisconsin that will be used in residential construction. This means someone in your company needs to attend the course if you wish to produce Wisconsin Local-Use Dimension Lumber. (Note: Local-use dimension lumber is lumber that is not grade-stamped under the authority of a grading association.)**

If you wish to produce and directly sell Wisconsin Local-Use Dimension Lumber that may be used in residential construction, you will need to get someone from your mill to a course so they be certified (as a representative of your mill). Also if you do custom sawing for anyone who wishes to use the lumber in their dwelling (such as if you have a portable mill and are custom sawing logs for forest landowners who want to use that lumber in building their home), this would apply to you and you also should get the training and get certified.

The next one-day Wisconsin Local-Use Dimension Lumber Grading Short-Course that you can register for will be offered on December 9th and April 12, 2011 at the University of Wisconsin-Stevens Point Wood Lab in Stevens Point WI.

The short-course is one day in length, beginning at 9:00 AM and ending at around 4:30 PM (at the latest).

There will be no fee for attending - HOWEVER - pre-registration is required – there will be NO WALK-IN REGISTRATION - (space is limited to 20 persons maximum for each course to allow for more interactive discussion). Pre-registration for the course must be received before November 11th for the December class and March 25th for the April class to permit time to confirm registrations, and for mailing all students a grading manual for advance study, and travel directions and other materials.

To register for any of the short-course, you may email, FAX or phone in your registration. Your registration will be confirmed (also by email, FAX, mail or phone) OR you will be informed the course is full.

TO REGISTER:

Email the following information to: RGOVETT@UWSP.EDU (email registration is preferred if possible)

Provide the following information when registering:
1) The full name (or names) of the person (or persons) being registered
2) The company name (if different from the person's name)
3) A complete mailing address (including zip code)
4) Phone number (with area code)

OR if you do not use email you can FAX to: Bob Govett 715-346-4821

OR you can simply phone Bob Govett (715-346-4212) – if you phone in your registration – please be sure to spell out the name and address

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If you wish to use the facilities of the Bulletin, forward a letter, post card or form on page 11 with detailed description of your "wanted" or "for sale" items. All forest products (stumpage, logs, pulpwood, posts, poles, trees and lumber, etc.) and services (custom sawing, custom kiln drying and tree planting, etc.) may be listed. Please be sure your full name, address (including zip code), telephone number accompany your listing, there is no cost for listing any items. If you want items repeated in the next issue, send in a written request. If you have comments about the Bulletin or have suggestions on its content, write to: Forest Products Specialist, 3911 Fish Hatchery Road, Fitchburg, WI 53711, phone (608) 231-9333 FAX (608) 275-3338.

DEADLINE FOR ITEMS TO BE LISTED IS THE 20TH OF: MARCH, JUNE, SEPTEMBER and DECEMBER.

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